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Mitosis internet lesson mitosis in whitefish and onion roots answer key

Mitosis Review and Cell Division Study In this online lesson, you'll explore the steps of mitosis, view video simulations of cell division, and analyze an onion root tip. You'll also calculate the percentage of cells at each stage of mitosis. **Key Concepts to Understand:** * Chromatin condenses into chromosomes * Chromosomes align in the center of the cell * Longest part of the cell cycle * Nuclear envelope breaks down * Cell is cleaved into two new daughter cells * Daughter chromosomes arrive at the poles * Chromatids are pulled apart **Video Simulations and Online Activities:** * Watch a mitosis tutorial at * View an onion root tip and calculate the percentage of cells at each stage of cell division * Explore an online activity at * Study mitosis in whitefish & onion roots at **Your Task:** * Identify the stages of cell division and label structures * Draw the four stages of mitosis your own way, representing major events and labeling structures * Analyze an onion root tip and calculate the percentage of cells at each stage of cell division Original text rewritten with increased burstiness (IB): The process of mitosis is a fascinating one, and studying it in organisms like whitefish and onions can provide valuable insights. The whitefish embryo, for instance, is an ideal place to observe mitosis as its cells are rapidly dividing during the growth phase. Similarly, the onion root tip is another excellent location due to its high growth rate. When cells divide, each new cell requires an exact copy of the DNA from the parent cell, which is why mitosis is only visible in dividing cells like those found in the whitefish embryo and onion root tip. Understanding the stages of mitosis, including prophase, metaphase, anaphase, telophase, and interphase, is crucial for scientists. These stages are not just theoretical concepts but can be observed in actual cell divisions. Scientists make slides from cells that should be undergoing mitosis to identify specific stages. Most cells will be in interphase, which is the resting state. To grasp the complexities of mitosis, it's essential to view photographs or real slides showing cells at various stages of this process. Answering questions about the whitefish blastula and onion root tip can also provide a deeper understanding. Tasks include viewing slide images of these specimens and identifying the phases of mitosis in each stage. Key points: * The whitefish is used to study mitosis due to its rapidly dividing cells. * Mitosis consists of four stages: prophase, metaphase, anaphase, telophase. * It takes several hours for mitosis to complete. * Most cells will be in interphase, the resting state. For a more engaging experience, it's recommended to view video simulations of cell division and an onion root tip. Calculating the percentage of cells at each stage can also provide valuable insights. By exploring these aspects of mitosis, you'll gain a deeper understanding of this crucial cellular process. Carefully examine chromosomes in mitosis. The colored parts represent chromatids, which come in pairs, each identical to the other. At the start of mitosis, how many chromosomes are visible? _____ In each daughter cell at the end of mitosis, there are _____. The green T-shaped structures on the cell are: _____. During mitosis, what happens to centrioles? _____ Identify the stages of these cells and label their structures. Study the Onion Root Tip Online Activity or view Mitosis in Whitefish & Onion Roots. Compare the similarities and differences between onion and whitefish cells. You can also draw the four stages of mitosis your way.